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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,256	07/30/2001	Wayne Lee Borgen	8200.495	8665

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Matthew W. Stavish, Esq.
Liniak, Berenate, Longacre and White
6550 Rock Spring Dr. # 240
Bethesda, MD 20817

EXAMINER

YEAGLEY, DANIEL S

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,256

Applicant(s)BORGES ET AL. *CJT***Examiner**

Daniel Yeagley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the Supplemental Appeal Brief filed on 2/27/04, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 – 18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 - 15 of U.S. Patent No. 6,517,462 in view of Onodera '584. Wherein the Borgan patent discloses a double disconnect assembly having a clutch assembly and a first and second axle shaft being axially slidable with respect to the differential and wherein the reference to Onodera discloses another double disconnect assembly on a vehicle having the obvious first and second drive axle; wherein the second drive axle is driven by an obvious drive train and further discloses the disconnect assembly which incorporates a first and second clutch assembly that selectively disengages the drive train and the first and second axle shafts as broadly claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 8 and 10 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balmforth '979 in view of Hunt '720.

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Balmforth shows a multiply axle disconnect system for a tandem vehicle having a primary rear drive axle 93, a first drive axle 70 and a second drive axle 94 that is driven by a drive train 40 (figure 7), such that a first clutch assembly 73 engages and disengages the drive train 40 (figure 1), and includes a second clutch assembly 73 shown to the left of numeral 98 (figure 7), wherein the second clutch assembly selectively engages and disengages the axle shafts 111 and 112 of the second drive axle from a differential assembly at numeral 92, wherein the differential assembly comprises pinion gears 68 mounted with respect to a cross pin 67, side gears 69 rotatable about a transverse axis of axle shafts 70 (as shown in figure 2) that include a splined interconnection consisting of complimentary splines of axial spaced rows of gear teeth on the outer surfaces of the axles and the inner bore surface of the side gears which is readable on the instant claims as broadly read and further shows drive axle shafts 40, 98 having first and second clutch members (splines 74) on the inner bores of a gear 73 and the outer surface of the drive shafts which includes a clutch collar 76 which are capable of selectively engaging and disengaging to drive the axle shafts 111, 112 of the second drive axle as broadly claimed and wherein when the first and second clutch assemblies are not engaged the differential assembly of 94 is in a non-rotating state, but lacked the first and second axle shafts being axially slidable to mutually disconnect the axle shafts from the first and second side gears, wherein the axle shafts are slidable with respect to the differential assembly.

Hunt discloses a dual disconnect system for a tandem (four-wheel drive) drive assembly that shows the prior art of incorporating an axially slidable clutch assembly comprising a first and second axle shaft (left side and right side of axle shaft, elements 30 and 34) which includes an interconnecting member (intermediate portion of numeral 30 which comprises a rod extending

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from an inboard end of the first axle shaft (left side) to an inboard end of the second axle shaft (right side), wherein the rod passes through a cross pin 16 and interconnects the first and second axle shafts and provides simultaneous axial movement of the axle shafts on the drive axle 24 along a transverse axis that is axially slidable with respect to a differential (figure 1) for selectively engaging and disengaging the first and second axle shafts of the drive axle 24 (column 1 – 5), wherein the first and second axle shafts further consists of clutch members (splines 31 of axial spaced rows of gear teeth; figure 5, column 3) that engage clutch members (splines 22, 23) on side gears 20,21 with a clutch collar 36 mounted on one of the axle shafts with an actuator having an arm 40 for engaging the clutch collar for slidably moving the axle shafts between clutch engaging and disengaging positions by use of a compression spring 42.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the dual axle disconnect system of Balmforth tandem driven vehicle with an alternative arrangement of the differential and clutch assembly of a double disconnect assembly such as shown by Hunt with the clutch drive assembly positioned between the drive axle having slidable axle shafts to drive the drive axles as suggested by Hunt for a more compact disconnect assembly as taught by Hunt for selectively engaging axle shafts of the drive axle of a dual disconnect drive assembly for simultaneously driving side gears of a differential to obtain the advantages of greater fuel economy, less wear and noise, fewer parts and a more compact design as disclosed by Hunt dual disconnect drive assembly (column 1) and is considered a simple matter of design choice dependent upon the users preference.

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6. Claims 1 – 8 and 10 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balmforth '979 in view of Onodera '584.

Balmforth shows a multiply axle disconnect system for a tandem vehicle having a primary rear drive axle 93, a first drive axle 70 and a second drive axle 94 that is driven by a drive train 40 (figure 7), such that a first clutch assembly 73 engages and disengages the drive train 40 (figure 1), and includes a second clutch assembly 73 shown to the left of numeral 98 (figure 7), wherein the second clutch assembly selectively engages and disengages the axle shafts 111 and 112 of the second drive axle from a differential assembly at numeral 92, wherein the differential assembly comprises pinion gears 68 mounted with respect to a cross pin 67, side gears 69 rotatable about a transverse axis of axle shafts 70 (as shown in figure 2) that include a splined interconnection consisting of complimentary splines of axial spaced rows of gear teeth on the outer surfaces of the axles and the inner bore surface of the side gears which is readable on the instant claims as broadly read and further shows drive axle shafts 40, 98 having first and second clutch members (splines 74) on the inner bores of a gear 73 and the outer surface of the drive shafts which includes a clutch collar 76 which are capable of selectively engaging and disengaging to drive the axle shafts 111, 112 of the second drive axle as broadly claimed and wherein when the first and second clutch assemblies are not engaged the differential assembly of 94 is in a non-rotating state, but lacked the first and second axle shafts being axially slidable to mutually disconnect the axle shafts from the first and second side gears, wherein the axle shafts are slidable with respect to the differential assembly.

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Onodera discloses a dual disconnect system for a tandem (four-wheel drive) drive assembly that shows the prior art of incorporating an axially slidable clutch assembly comprising a first axle shaft (left side of element 36 and element 29a) and second axle shaft (right side of element 36) which includes an interconnecting member (intermediate portion of numeral 36 which comprises a rod extending from an inboard end of the first axle shaft to an inboard end of the second axle shaft, such that the rod passes through a cross pin 25 and interconnects the first and second axle shafts which provides simultaneous axial movement of the axle shafts of a drive axle along a transverse axis which is axially slidable with respect to a differential (figure 3) for selectively engaging and disengaging the first and second axle shafts, wherein the first and second axle shafts further consists of clutch members (splines 29a1 being axial spaced rows of gear teeth) that engage clutch members (splines 29b1) on a side gear 29b that includes a clutch collar 30 mounted on one of the axle shafts with an actuator having an arm 34b for engaging the clutch collar for slidably moving the axle shafts between clutch engaging and disengaging positions by use of a compression spring 35.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the dual axle disconnect system of Balmforth tandem driven vehicle with an alternative arrangement of the differential and clutch assembly of a double disconnect assembly such as shown by Onodera having the clutch drive assembly positioned between the drive axle that incorporates slidable axle shafts to drive the drive axles as suggested by Onodera for a more simple construction to prevent back drive to the components in the differential as taught Onodera for selectively engaging and disengaging the axle shafts of the drive axle and is considered a simple matter of design choice dependent upon the users preference.

Response to Arguments

7. Applicant's arguments filed 4/27/04 have been fully considered but they are not persuasive. Balmforth '979 clearly discloses a tandem clutch driven vehicle as stated above and as obviously modified by Hunt '720 as stated above fully disclose a double disconnect system for drive assembly as broadly claimed, wherein there is no distinct structural correlation claimed between the axially slidable first and second axle shafts and the second clutch assembly as broadly claimed in independent claim 1 and thus the prior art of Balmforth as modified by Hunt is readable on the claims as broadly read and is further viewed as being obvious to one of ordinary skill in the art to have combined the more compact double disconnect assembly of Hunt to the double disconnect assembly of Balmforth tandem wheeled drive assembly since it is held that the mere rearranging of parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

The new rejection of Balmforth in view of Onodera under 35 U.S.C. 103(a) is cited as more clearly showing the invention of splined clutch assemblies on axially slidable axle shafts to provide simultaneous axial movement of the axle shafts on a drive axle along a transverse axis that is axially slidable with respect to a differential as claimed.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

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applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Borgan et al '249 discloses an axially slidable axle clutch assembly.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Yeagley whose telephone number is 703-305-0838. The examiner can normally be reached on Mon. - Fri; first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.Y.


LESLEY D. MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600